

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please cancel Claims 1-23 and 27-48.

4 1. (Cancelled)

5 2. (Cancelled)

6 3. (Cancelled)

7 4. (Cancelled)

8 5. (Cancelled)

9 6. (Cancelled)

10 7. (Cancelled)

11 8. (Cancelled)

12 9. (Cancelled)

13 10. (Cancelled)

14 11. (Cancelled)

15 12. (Cancelled)

16 13. (Cancelled)

17 14. (Cancelled)

18 15. (Cancelled)

19 16. (Cancelled)

20 17. (Cancelled)

21 18. (Cancelled)

22 19. (Cancelled)

23 20. (Cancelled)

24 21. (Cancelled)

25 22. (Cancelled)

26 23. (Cancelled)

27 24. (Currently Amended) A videoendoscopic surgery trainer for the practice of
28 videoendoscopic surgery techniques, the trainer comprising:

29 (a) a housing defining a practice volume;

1 (b) a digital video camera disposed within the practice volume, the digital video
2 camera being configured to capture a plurality of frames per second, such that the digital video
3 camera can provide a digital video feed of at least a portion of the practice volume; and

4 (c) a support structure comprising an elongate member, the elongate member
5 having a proximal end disposed outside of the practice volume, and a distal end disposed inside the
6 practice volume, the digital video camera being coupled with the distal end of the elongate member,
7 such that a manipulation in manually changing a position of the proximal end of the elongate member
8 results in a change in a position of the digital video camera, the elongate member movably supporting
9 the digital video camera externally of the elongate member.

10 25. (Original) The videoendoscopic surgery trainer of Claim 24, wherein the support
11 structure comprises a bracket configured to slidingly engage the elongate member, such that an
12 amount of the elongate member disposed within the practice volume can be increased and decreased
13 as desired.

14 26. (Original) The videoendoscopic surgery trainer of Claim 24, wherein the support
15 structure comprises a bracket that enables the elongate member to pan and tilt.

16 27. (Cancelled)
17 28. (Cancelled)
18 29. (Cancelled)
19 30. (Cancelled)
20 31. (Cancelled)
21 32. (Cancelled)
22 33. (Cancelled)
23 34. (Cancelled)
24 35. (Cancelled)
25 36. (Cancelled)
26 37. (Cancelled)
27 38. (Cancelled)
28 39. (Cancelled)
29 40. (Cancelled)
30 41. (Cancelled)

1 42. (Cancelled)
2 43. (Cancelled)
3 44. (Cancelled)
4 45. (Cancelled)
5 46. (Cancelled)
6 47. (Cancelled)
7 48. (Cancelled)

8 Please add new Claims 49-92 as follows:

9 49. (New) The videoendoscopic surgery trainer of Claim 24, wherein the digital video
10 camera is substantially larger than a smallest incision that would be required to insert a laparoscope
11 into a body of a patient.

12 50. (New) A videoendoscopic surgical trainer for practicing videoendoscopic surgical
13 techniques, comprising:

14 (a) a housing defining a practice volume;

15 (b) a digital imaging sensor configured to obtain an image of at least a portion of
16 the practice volume and to output a corresponding signal that can be used to generate a video signal
17 to drive a display; and

18 (c) a boom configured to support and position the digital imaging sensor, such that
19 a position of the digital imaging sensor can be changed with the boom to obtain an image of a
20 different portion of the practice volume, the boom having a proximal end disposed outside of the
21 practice volume, and a distal end disposed inside the practice volume, the digital imaging sensor
22 being coupled with the distal end of the boom, such that manually changing a position of the
23 proximal end of the boom results in a change in a position of the digital imaging sensor.

24 51. (New) The videoendoscopic surgical trainer of Claim 50, further comprising a support
25 member configured to slidably engage the boom, such that an extent by which the boom extends
26 within the practice volume is selectively variable by the sliding the boom relative to the support
27 member.

28 52. (New) The videoendoscopic surgical trainer of Claim 51, wherein the support member
29 can be selectively locked, such that once the boom extends within the practice volume to a desired
30

1 extent, the lock can be actuated to prevent the extent by which the boom extends within the practice
2 volume from being changed until the lock is released.

3 53. (New) The videoendoscopic surgical trainer of Claim 50, further comprising a support
4 member configured to enable the digital imaging sensor to be moved in at least one of:

5 (a) in a panning motion; and
6 (b) in a tilting motion.

7 54. (New) The videoendoscopic surgical trainer of Claim 53, further comprising a locking
8 mechanism that is operative to selectively lock the support member in a desired position, such that
9 once the digital imaging sensor is positioned as desired, further movement of the digital imaging
10 sensor is inhibited until the locking mechanism is released.

11 55. (New) The videoendoscopic surgical trainer of Claim 50, further comprising a support
12 member configured to pivotally engage the housing, such that a position of the distal end of the boom
13 member within the practice volume is selectively adjustable.

14 56. (New) The videoendoscopic surgical trainer of Claim 50, wherein the proximal end of
15 the boom comprises a handle configured to simulate a handle of a generally conventional
16 laparoscope.

17 57. (New) The videoendoscopic surgical trainer of Claim 50, wherein the boom includes a
18 hollow shaft configured to receive electrical leads coupling the digital imaging sensor to at least one
19 of:

20 (a) a display; and
21 (b) a processor configured to generate a signal usable to drive a display.

22 58. (New) The videoendoscopic surgical trainer of Claim 50, wherein the digital imaging
23 sensor is capable of capturing at least thirty frames per second.

24 59. (New) The videoendoscopic surgical trainer of Claim 50, wherein the digital imaging
25 sensor comprises a web camera.

26 60. (New) A videoendoscopic surgical trainer for practicing videoendoscopic surgical
27 techniques, comprising:

28 (a) a housing defining a practice volume; and
29 (b) a digital video camera disposed within the practice volume, the digital video
30 camera producing a digital video signal conveying images of at least a portion of the practice volume,

1 the digital video camera being movable within the practice volume, such that a position of the digital
2 video camera can be changed to obtain an image of a different portion of the practice volume,
3 wherein the digital video camera is substantially larger than a smallest incision that would be required
4 to insert a laparoscope into a body of a patient.

5 61. (New) A videoendoscopic surgical trainer for practicing videoendoscopic surgical
6 techniques, comprising:

7 (a) a housing defining a practice volume;

8 (b) a digital video camera disposed within the practice volume, the digital video
9 camera producing a digital video signal conveying images of at least a portion of the practice volume;
10 and

11 (c) a support structure, the digital video camera being coupled to and supported by
12 the support structure, the support structure enabling the digital video camera to be movably
13 positioned within the practice volume to change a position of the digital video camera so as to obtain
14 an image of a different portion of the practice volume, the support structure movably supporting the
15 digital video camera without substantially enveloping the digital video camera.

16 62. (New) The videoendoscopic surgical trainer of Claim 61, wherein the digital video
17 camera is substantially larger than a smallest incision that would be required to insert a laparoscope
18 into a body of a patient.

19 63. (New) The videoendoscopic surgical trainer of Claim 61, wherein the support structure
20 includes at least one of a ball head that enables the digital video camera to pan, and tilt and a pan and
21 tilt head.

22 64. (New) The videoendoscopic surgical trainer of Claim 61, wherein the support structure is
23 substantially disposed within the housing.

24 65. (New) The videoendoscopic surgical trainer of Claim 61, wherein the support structure
25 comprises an elongate member having a proximal end disposed outside the practice volume and a
26 distal end disposed inside the practice volume, the digital video camera being coupled to the distal
27 end of the elongate member.

28 66. (New) The videoendoscopic surgical trainer of Claim 65, wherein the proximal end of
29 the elongate member comprises a handle configured to simulate a handle of a generally conventional
30 laparoscope.

1 67. (New) The videoendoscopic surgical trainer of Claim 65, further comprising a support
2 member configured to slidably engage the elongate member, such that an extent to which the
3 elongate member extends within the practice volume is selectively variable.

4 68. (New) The videoendoscopic surgical trainer of Claim 67, , wherein the support member
5 can be selectively locked, such that once the elongate member extends within the practice volume to
6 a desired extent, its position is locked to prevent a change in the extent by which the elongate
7 member extends within the practice volume.

8 69. (New) The videoendoscopic surgical trainer of Claim 65, further comprising a mounting
9 bracket, the mounting bracket being configured to enable a position of the distal end of the elongate
10 member within the practice volume to be selectively adjustable by pivotally engaging one of:

11 (a) the elongate member; and
12 (b) the housing.

13 70. (New) The videoendoscopic surgical trainer of Claim 61, wherein the housing comprises
14 a replaceable top panel.

15 71. (New) The videoendoscopic surgical trainer of Claim 61, wherein the digital video
16 camera comprises a web camera.

17 72. (New) A videoendoscopic surgical training system for practicing videoendoscopic
18 surgical techniques, comprising:

19 (a) a housing defining a practice volume;
20 (b) a digital image sensor disposed within the practice volume, the digital image
21 sensor producing a digital video signal conveying images of at least a portion of the practice volume;
22 (c) a boom configured to support and position the digital image sensor, such that a
23 position of the digital image sensor can be changed to obtain an image of a different portion of the
24 practice volume, the boom having a proximal end disposed outside of the practice volume, and a
25 distal end disposed inside the practice volume, the digital image sensor being coupled with the distal
26 end of the boom, such that manually changing a position of the proximal end of the boom results in a
27 change in a position of the digital image sensor;
28 (d) a signal processor configured to receive and process the digital video signal
29 from the digital image sensor, to provide a display video signal that conveys the images, the signal
30 processor being disposed external to the housing; and

(e) a display for displaying the images conveyed by the display video signal.

73. (New) The videoendoscopic surgical training system of Claim 72, further comprising a support member configured to movably support the boom, the support member facilitating at least one of:

- (a) changing an extent by which the boom extends within the practice volume;
- (b) moving the digital image sensor in a tilting motion; and
- (c) moving the digital image sensor in a panning motion.

8 74. (New) The videoendoscopic surgical training system of Claim 73, wherein the support
9 member can be selectively locked, such that once the digital image sensor is positioned as desired,
10 further movement of the digital image sensor is inhibited until the support member is selectively
11 unlocked.

75. (New) A videoendoscopic surgical training system for practicing videoendoscopic surgical techniques, comprising:

- (a) a housing defining a practice volume;
- (b) a digital image sensor disposed within the practice volume, the digital image sensor generating a digital video signal conveying images of at least a portion of the practice volume;
- (c) a support structure configured to support and position the digital image sensor, the position of the digital image sensor being changeable to obtain an image of a different portion of the practice volume, the support structure movably supporting the digital image sensor so that the digital image sensor is substantially external to the support structure;
- (d) a signal processor configured to receive and process the digital video signal generated by the digital image sensor to provide a display video signal that conveys the images; and
- (e) a display for displaying the images conveyed by the display video signal.

76. (New) The videoendoscopic surgical training system of Claim 75, wherein the digital image sensor is substantially larger than a smallest incision that would be required to insert a laparoscope into a body of a patient.

77. (New) The videoendoscopic surgical training system of Claim 75, wherein the support
structure comprises a boom, the boom having a proximal end disposed outside of the practice volume
and a distal end disposed inside the practice volume, the digital image sensor being coupled to the

1 distal end of the boom, such that manipulating the proximal end of the boom changes the position of
2 the digital image sensor.

3 78. (New) The videoendoscopic surgical training system of Claim 75, further comprising a
4 non volatile memory medium electrically coupled with the digital image sensor and configured to
5 store the digital video signal for later use.

6 79. (New) The videoendoscopic surgical training system of Claim 75, wherein the signal
7 processor comprises a computing device having a storage medium used to store the digital video
8 signal for later display.

9 80. (New) The videoendoscopic surgical training system of Claim 75 wherein the signal
10 processor comprises a computing device, the computing device comprising:

11 (a) a processor; and

12 (b) a memory in communication with the processor, said memory storing machine
13 instructions that cause the processor to carry out a plurality of functions, including:

14 (i) storing the digital video signal in a non volatile memory;

15 (ii) processing the digital video signal to produce the display video signal;
16 and

17 (iii) transmitting data conveyed by at least one of the digital video signal
18 and the display video signal to another computing device using a network connection.

19 81. (New) A method for simulating an internal imaging of an endoscopic procedure,
20 comprising the steps of:

21 (a) providing a surgical trainer that defines a practice volume in which a simulated
22 endoscopic procedure can be performed upon at least one exercise object;

23 (b) producing a signal conveying images of the at least one exercise object from a
24 first position within the surgical trainer;

25 (c) displaying the images of the at least one exercise object conveyed by the signal
26 in regard to the first position;

27 (d) manipulating a support structure that movably supports a digital imaging
28 sensor substantially external to the support structure, the digital imaging sensor being positioned by
29 manually changing a position of the support structure so that the digital imaging sensor produces a
30

1 signal conveying images of the at least one exercise object from a second position within the surgical
2 trainer; and

3 (e) displaying the images of the at least one exercise object conveyed by the
4 signal, in regard to the second position.

5 82. (New) The method of Claim 81, further comprising the step of converting each signal to
6 a display video signal, such that one of an analog display, and a digital display is driven by the
7 display video signal, to display the images of the of the at least one exercise object.

8 83. (New) The method of Claim 81, further comprising the step of reflecting an image of at
9 least one exercise object toward the digital imaging sensor.

10 84. (New) The method of Claim 81, wherein the step of manipulating the support structure
11 further comprises the step of locking the support structure once the digital imaging sensor is
12 positioned to produce the signal conveying images of the at least one exercise object from the second
13 position, to inhibit undesired movement of the digital imaging sensor.

14 85. (New) The method of Claim 81, wherein the step of manipulating the support structure
15 comprises at least one of the steps of:

16 (a) tilting the digital imaging sensor to move digital imaging sensor from the first
17 position to the second position

18 (b) panning the digital imaging sensor to move the digital imaging sensor from the
19 first position to the second position;

20 (c) zooming the digital imaging sensor closer to the at least one exercise object, to
21 move the digital imaging sensor from the first position to the second position; and

22 (d) zooming the digital imaging sensor away from the at least one exercise object,
23 to move the digital imaging sensor from the first position to the second position.

24 86. (New) The method of Claim 81, further comprising the step of storing a signal
25 corresponding to images of the at least one exercise object collected by the digital imaging sensor
26 from at least one of the first and second positions.

27 87. (New) The method of Claim 81, further comprising the step of transmitting a signal over
28 a network, the signal corresponding to images of the at least one exercise object collected by the
29 digital imaging sensor from at least one of the first and second positions.

30

1 88. (New) A method for using an imaging device to enhance a session of endoscopic skills
2 training, comprising the steps of:

3 (a) introducing at least one exercise object into a practice volume of a surgical
4 trainer;

5 (b) using the imaging device to produce a signal conveying images of the at least
6 one exercise object from a first position within the surgical trainer;

7 (c) displaying the images of the at least one exercise object conveyed by the signal
8 in regard to the first position;

9 (d) manipulating a boom that movably supports the imaging device at a distal end
10 of the boom, so that the imaging device produces a signal conveying images of the at least one
11 exercise object from a second position within the surgical trainer; and

12 (e) displaying the images of the at least one exercise object conveyed by the signal
13 in regard to the second position.

14 89. (New) The method of Claim 88, wherein the step of manipulating the boom further
15 comprises the step of locking the boom once the imaging device is positioned to produce the signal
16 conveying images of the simulated anatomical structure from the second position, to prevent
17 undesired further movement of the imaging device.

18 90. (New) The method of Claim 88, further comprising the step of transmitting data over a
19 network that can be used to display images collected by the imaging device.

20 91. (New) The method of Claim 88, further comprising the step of storing data that are
21 usable to display images collected by the imaging device after the session is complete.

22 92. (New) The method of Claim 88, wherein the step of manipulating the boom further
23 comprises at least one of the steps of:

24 (a) zooming the imaging device closer to the at least one exercise object, to move
25 the imaging device from the first position to the second position;

26 (b) zooming the imaging device farther from the at least one exercise object, to
27 move the imaging device from the first position to the second position;

28 (c) panning the imaging device to move the imaging device from the first position
29 to the second position; and

